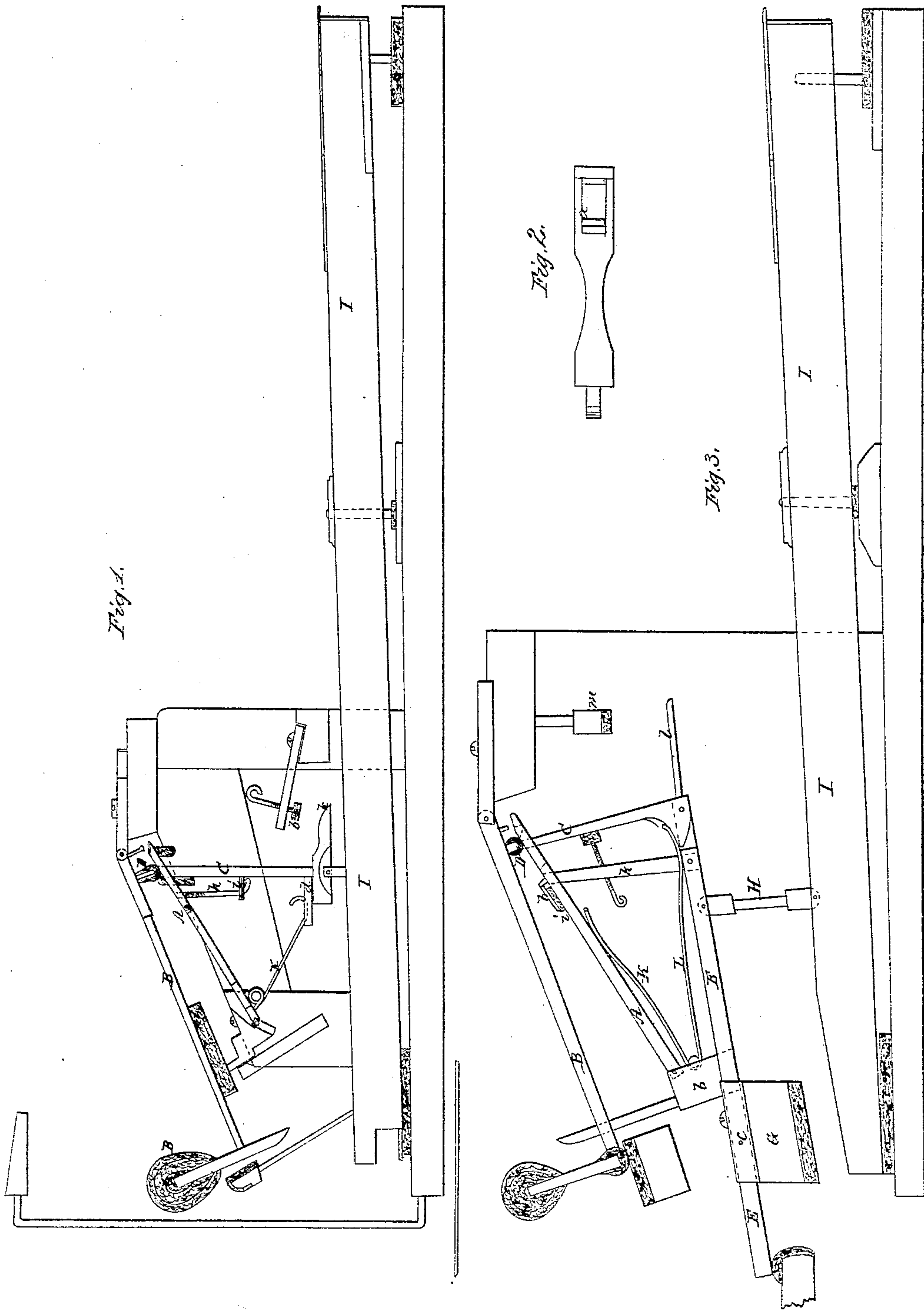


G. Howe, Piano Action.

N^o 18,453.

Patented Oct. 20, 1857.



UNITED STATES PATENT OFFICE.

GEO. HOWE, OF ROXBURY, MASSACHUSETTS.

PIANOFORTE-ACTION.

Specification of Letters Patent No. 18,453, dated October 20, 1857.

To all whom it may concern:

Be it known that I, GEORGE HOWE, of Roxbury, in the county of Norfolk and State of Massachusetts, have invented an Improved
5 Single Action for Grand Pianofortes; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

10 Figure 1, is a side view of my improved action. Fig. 2, is a top view of its hammer holder. Fig. 3, is a side view of what is termed the "double action" of Evard, my invention being more particularly an im-
15 provement on this latter, whereby I convert it into a "single action," obtain all the advantages of it without many of its defects, effect a saving in the expense of construc-
20 tion, and render it less complex and more efficient. I have deemed it proper to exhibit a sketch of the Evard action in order that the two may be more easily explained and understood.

That feature which especially distin-
25 guishes the "Evard action" from various others, is what may be termed the "hammer holder" or part marked A in Figs. 1 and 3. Although the hammer B rests on this, the fly C, does not elevate it, but op-
30 erates directly against an abutment D, projecting from the hammer and down upon the holder A. The fly works through a slot formed in the holder A, as denoted by dotted lines in Figs. 1 and 3, and as shown
35 at *a*, in Fig. 2.

In the Evard action, the hammer holder is hinged or jointed to a post *b*, extended upward from a lever or under hammer E, E, having its fulcrum at *c*, and sustained by a
40 rail G. This under hammer or lever is supported by a pitman H, which connects it with the key I, and is jointed both to the latter and the lever E, so that when the key may be struck the lever E, will be forced
45 upward. The fly, C, is jointed to the lever E. By means of a spring K, fastened to the lever E, by the post *b*, the hammer holder A, is indirectly supported by the lever E. It is the employment of this lever E, in con-
50 nection with the fly and the hammer, that makes the action what is termed a "double action," a single action, such as answers for ordinary small or square pianos, not requiring any "under lever," although such is comomn in them also, but as a general thing
55 they do not have the hammer holder in their

actions. The object of this hammer holder supported by a spring as described is to hold up the hammer when it is near the string, so as to enable the fly to operate with great
60 rapidity, this hammer holder being necessary to the grand pianos on account of the large size and weight of their hammers. Without it rapid execution or quick repetition of the blows of the hammer could not
65 be effected to advantage.

In my improved action I entirely dispense with the second or auxiliary lever E, of the "Evard action," and I hinge the fly C, directly to the key I, as seen in Fig. 1.
70 Furthermore I extend a spring K, from the hammer holder A, to and on a projection *d*, from the fly. This single spring is intended to perform two functions, viz., not only that of supporting the hammer holder, but
75 that of retracting the fly after each blow of the hammer. In the Evard action, two springs are used for such purposes, the same being shown at K, and L, in Fig. 3. Thus I dispense with one of these springs. I
80 would remark, however, that in other constructions of the Evard action, a single V-spring turning on a center pin has been employed and particularly when the second or
85 auxiliary lever has been dispensed with. In my action, the spring is a single one and is fixed at one end in the hammer holder, has no joint pin to turn on and rests at the other end on the part *d*, of the fly C. This gives
90 it an important advantage, as it not only renders the action cheaper of construction but less liable to get out of order or repair and prevents all the noise, which results at
95 times from the working of the spring on a center pin.

The improved action thus made is simple of construction and very effectual in its operation. Furthermore, I employ very simple means or devices for pulling down the
100 hammer holder and casting the fly off the projection of the hammer, the same being shown at *h*, *i*, *k*, *l*, in Fig. 1. Those for such purposes in the Evard action are exhibited at *h*, *i*, *k*, *l*, and *m*, in Fig. 3, and will be
105 understood by pianoforte makers.

In Fig. 1, *h*, is a rod extending from the hammer holder and bent so as to extend underneath the part *i*, which is a projection from the fly, while *l*, is a regulating stop or
110 button.

I do not claim the Evard action made either with or without a second lever, as de-

scribed, and with a double or V-spring turning on a center pin, the fly being either hinged to the second lever or to the key, but

What I claim is—

- 5 The improved Evard action having a hammer holder and fly arranged, applied to, and operating with the key lever and hammer as described, and having the spring K, applied to the holder and fly in such manner
19 that it shall be fixed in the former and project toward and rest on the fly projection,

and without any joint or pin for the spring to turn on, whereby the spring operates free from noise and is not liable to get out of place or order. 15

In testimony whereof I have hereunto set my signature.

GEO. HOWE.

Witnesses:

R. H. EDDY,
F. R. HALE, Jr.